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ABSTRACT

The regular education initiative is a recent movement away from special education for students with learning and behavior problems. Leaders and advocates from the fields of school psychology, special education, and compensatory education have argued that the current within-child disability approach to serving students experiencing academic or social difficulties has proven inadequate. In response, alternatives that would significantly increase the involvement of regular classroom teachers in the instruction of these students are being proposed. The proposed changes in the relationship between regular and special education represent a paradigm shift in educational thinking and practice. The service delivery models being proposed as part of the initiative require a radical reconceptualization of childhood disorder, away from the intrapsychic focus that has dominated psychology during most of this century and toward an acknowledgement of the interactional, environmental bases of problem behavior. If strategies proposed as part of the regular education initiative are to be successful, the ecological assumptions and the possible pitfalls inherent in them must be made explicit. (MSE)

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The Regular Education Initiative and Psychoeducational Assessment: A Components of Variance Approach

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Running Head: COMPONENTS OF VARIANCE

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Abstract

Difficulties in the current model of service delivery to students with learning and behavior problems have led to extensive calls for a reexamination of the relationship between regular and special education. The current model of within child disability appears to have little empirical support, either in regard to the reliability of assessment practice, or the treatment validity of the current diagnostic approaches. In addition, the current model has led to inefficient use of resources, duplication of services, problems of labeling and minority overrepresentation, and artificial barriers to mainstream. The alternatives being proposed appear to shift the focus to an implicit ecological model of assessment and intervention, that necessitates attention to both student ability and adequacy of instruction. Implications for both eligibility determination and prevalence estimates are discussed, and examples of methods for assessment of the instructional environment are presented.

The Regular Education Initiative and Psychoeducational Assessment: A Components of Variance Approach

One of the more impressive recent trends in American education has been the movement that has become known as the regular education initiative (REI). Leaders and advocates from the fields of school psychology, special education, and compensatory education have argued that the current system for serving students experiencing academic or social difficulties has proven inadequate (Algozzine & Korinek, 1985; Gans, 1987; Gerber, 1984; Graden, Casey, & Christenson, 1985; Heller, Holtzman, & Messick, 1982; Lipsky & Gartner, 1987; NASP-NCAS, 1985; Nevin & Thousand,in press; Pugach & Lilly, 1984; Reschly, 1988; Reynolds, Wang, & Walberg, 1987; Shephard, 1987; Stainback & Stainback, 1984; Will, 1986; Ysseldyke, Thurlow, Graden, Wesson, Algozzine, & Deno, 1983). In response, alternatives are being proposed that would significantly increase the involvement of regular classroom teachers in the instruction of students with learning and behavior problems.

This paper will argue that proposed changes in the relationship between regular and special education represent no less than a paradigm shift (Kuhn, 1970) in educational thinking and practice. The service delivery models being proposed as part of the initiative require a radical reconceptualization of childhood disorder, away from the intrapsychic focus that has dominated psychology during most of this century, and toward an acknowledgment of the interactional, environmental bases of problem behavior. If strategies proposed as part of the REI are to be successful, the ecological assumptions,

as well as the possible pitfalls inherent in those assumptions, must be made explicit.

The Current Model of Assessment: Within-Child Deviance

Under procedures mandated by the Education for All Handicapped Children Act (P.L. 94-142), the so-called medical model remains (and has perhaps become institutionalized as) the dominant perspective in educational decision-making (Gelb & Mizokawa, 1986; Gelzheiser, 1987; Gliedman & Roth, 1980; Kovaleski, 1988). Under this model (see Figure 1), academic or behavior problems, presumably caused by a deficit or disorder within the child, are viewed as placing a child outside the resource capabilities of the regular classroom. Based on teacher or parent referral, the child is assessed to determine whether criteria for being labeled handicapped are met. Finally, the pull-out model of special education means that there is a substantial probability that a child found to be so handicapped will be removed from the mainstream for at least a part of the school day. The system appears to be teacher-driven, in that the vast majority of those who are referred are eventually declared eligible for special education (Algozzine, Christenson, & Ysseldyke, 1982).

Insert Figure 1 about here

It has been widely noted (Bogdan & Kugelmass, 1984; Rhodes, 1967; Rist & Harrel, 1982; Sarason & Doris, 1979) that the current system of assessment and placement rests on a number of assumptions which remain for the most part unconscious, but which still strongly influence the practice of school

psychology and special education. These can be summarized as two broad assumptions:

1.) Educational failure is primarily the result of intrapsychic disorder that can be reliably measured and classified (e.g., as learning disability, emotional disturbance, or mental retardation).

2.) Treatments can be differentially specified for students in different handicapping conditions, and will be differentially effective according to the type of educational disorder.

At present, there appears to little evidence supporting, and in fact a great deal of evidence contradicting, these two assumptions.

Assumption 1: Measurement and classification is reliable. Over 90% of all students served in special education fall into the high prevalence or mildly handicapped categories (Algozzine & Korinek, 1985; Reschly, 1988). Yet there is considerable evidence that the categories that mildly handicapped students are assigned to--educably mentally retarded (EMR), learning disabled (LD), and behaviorally disordered(BD)--may in fact be unreliable as a classification system. Extensive investigation of the special education decision-making process (Ysseldyke, Thurlow, Graden, Wesson, Algozzine, & Deno, 1983) indicates that unreliable tests are being used to classify students with an accuracy little better than chance, that current definitions of learning disabilities can result in errors of overclassification, and that students tend to be placed in special education, not on the basis of the data collected, but on the basis of the teacher referral and student demographic characteristics. In a survey of already referred students in Colorado,

Shephard, Smith, & Vojir (1983) found that 45% of all students being served under the label LD did not meet the state criteria for that condition. Such problems are confounded by inconsistency of definition from state to state, leading to large disparities in the proportions of children classified in the mildly handicapped categories (Morsink, Thomas, & Smith-Davis, in press).

Assumption 2: Differential effectiveness of treatment by category. The dual system of education rests upon the assumption of an aptitude-by-treatment interaction (Cronbach & Snow, 1977)--that is, that students with certain identifiable characteristics will benefit from a specialized type of instruction more than other students who lack those characteristics. As the National Academy of Science report on special education (Heller, Holtzman, & Messick, 1982) concluded:

> It is the responsibility of the placement team that labels and places a child in a special program to demonstrate that any differential label used is related to a distinctive prescription for educational practices ... that lead to improved outcomes. (p. 94)

However, reviews of an extensive literature in this area (Arter & Jenkins, 1979; Kavale & Forness, 1987; Ysseldyke & Mirkin, 1982) have failed to produce empirical evidence to support the effectiveness of differential programming based on differential diagnosis. In their meta-analysis of modality matched instruction, for example, Kavale and Forness (1987) found the effects on word recognition, comprehension, vocabulary, and spelling to be not significantly different from zero, regardless of the method of instruction or type of test

used in assessment.

The failure to find differences in effective teaching practices by special education category is not surprising, since field-based research studies have demonstrated that teachers in the mildly handicapped categories do not teach differently (Algozzine, Morsink, & Algozzine, 1988; Thurlow, Skiba, & McVicar, 1987), nor are teachers certified in different exceptionalities even trained differently (Newhouse, 1981). It is becoming increasingly apparent that there are not different types of instruction suitable to different types of students. Rather, there appears to be a single set of teaching strategies, emphasizing direct instruction and increasing academic response time, that has shown evidence of effectiveness across both regular and special education (Blackhurst, Bott, & Cross, in press; Hersh & Walker, 1983). Category and setting appear to be less influential in determining student outcomes than does adequacy of instruction in such areas as management, teacher affect, teacher instruction, cognitive press, and instructional pacing (Leinhardt & Pallay, 1982).

Consequences of the Current Model

Thus, there appears to be little empirical support for either the reliability of measurement or the treatment validity of current within-child classification systems. As Algozzine et al. (1988) note:

> Students are placed in categorical programs despite limited evidence that the grouping lead to differential treatment. Students of special education learn the . . . characteristics of different types of students despite limited evidence that this information is useful in planning

programs for most exceptional students. Teachers are certified to teach categorically different students despite limited evidence that most of the groupings are a source of differential treatment methods. (p. 264)

Moreover, a number of negative consequences of the current system have been widely documented, including the inefficient use of resources, duplication of services, the negative effects of labeling, and barriers to the least restrictive environment.

Inefficient use of resources. In a time of shrinking resources, the time and money spent on assessment for purposes of classification represents an enormous drain on the educational system. In 1983-84, approximately $11.8 billion was spent on special education, with $7.2 billion of that spent on students in only the LD and ED categories (Hagerty & Abramson, 1987). Under the current system of categorical services, a significant proportion of all money spent for service goes into assessment for the purpose of assigning a categorical label (Shepard, 1987).

The categorical approach to assessment and treatment has also had a major impact on the role and function of the school psychologist. School psychologists have consistently voiced the need for an expanded and more professionally satisfying role (Farling & Agner, 1979). Yet although the role of the school psychologist has been historically viewed as a multi-faceted one, with elements of consultation, counseling, assessment, and systems change, the mandate of P.L. 94-142 has tended to constrain psychologists in school settings to assessment for the purpose of categorization (Bardon, 1982).

Duplication of services. Reynolds & Wang (1983) have described the proliferation of "pull-out" services for students with special needs as "disjointed incrementalism." The resulting system has led to both competition for resources and duplication of services among professionals in both teacher training (Newhouse, 1981) and in service to children (Bogdan, 1983). In addition, the services provided in each specialty do not always meet the specific needs of students assigned to that specialty. As Stainback and Stainback (1984) note "...not all students labelled behaviorally disordered may need self-control training, while some students not so labeled may need self-control training as a part of their educational experience" (p. 105).

Negative effects of labeling. The negative effects of a label for purposes of classification have been widely noted. Hobbs (1975) identified a number of problems with labeling, including the stigmatization of the labeled child, the focus on one set of attributes to the neglect of other important attributes, and the fact that labels are insensitive to developmental changes in students. Moreover, a label may actually result in an educational disadvantage, as it leads to lowered expectations for performance and prognosis (Gillung & Rucker, 1977). Such concerns are especially salient in light of the continuing disproportionate minority representation in special education classes (Chinn & Hughes, 1987).

Barriers to the least restrictive alternative. Sarason (1982) argues that, although P.L. 94-142 was intended in part to encourage mainstreaming of children with special needs, the effect of the law has been to solidify the barriers between regular and special education. Since the passage of that

legislation, the number of students identified within the mildly handicapping conditions has grown at an alarming rate (Algozzine, & Korinek, 1985). At the same time, mainstreaming of handicapped students has not increased. In a comprehensive study of mainstreaming practices, Sansone & Zigmond (1986) reported there was relatively little mainstreaming occurring for mildly handicapped students, and that the mainstreaming that did occur was for the most part inappropriate.

The Regular Education Initiative: A New Paradigm for Assessment

The Federal initiative. Given these difficulties in the current system, it is not surprising that there has been an increased advocacy on the part of leaders in school psychology and special education for models designed to provide more effective and equitable service to students with learning and behavior problems (Reschly, 1988; Stainback & Stainback, 1984; Reynolds et al., 1987; Will, 1986). The federal initiative supporting this trend has come to be known as the regular or general education initiative and is usually described as including three components:

1.) Increased collaboration of regular and special education and increased use of the mainstream as a placement for students with learning and behavior problems,

2.) Service provided to students without the provision of a categorical label, and

3.) Increased use of curriculum-based assessment to monitor program effectiveness.

Limited experimental trials are being supported that will test the efficacy of

alternative strategies such as pre-referral intervention (Graden, Casey, & Christenson, 1985; Maheady, Towne, Algozzine, Mercer, & Ysseldyke, 1983), consulting teacher approaches (Knight, Meyers, Paolucci-Whitcomb, Hasazi, & Nevin, 1981; Huefner, 1988), or teacher assistance teams (Chalfant, Pysh, & Moultrie, 1979; Hayek, 1987).

An implicit ecological model. The idea of limiting special education referrals by modifying the student's current classroom environment represents an implicit recognition of the interactional nature of child deviance. If special education placement can be prevented or forestalled by environmental intervention, then it becomes difficult to argue that the locus of deviance lies solely within the child. Thus, neither the assumption of within-child disorder, nor the assumption of category by treatment interaction is necessary in the REI model.

Increasingly, research in assessment and decision-making has yielded data suggesting that judgments of child deviance are based upon both individual differences, and environmental reactions to those differences. Teacher judgments concerning child deviance may be influenced by teacher tolerance (Algozzine, 1977; Safran & Safran, 1987), personal characteristics of the student (Ross & Salvia, 1975; Tobias & Cole, 1982), or teacher skill in classroom management and instruction (Brophy & Rohrkemper, 1980; Mandell & Strain, 1978; Ysseldyke & Christenson, 1987a). On a school or system level, factors such as institutional structure (Christenson, Ysseldyke, & Algozzine, 1982), socioeconomic factors (Gelb & Mizokawa, 1986), resource availability (Gerber & Semmel, 1984), or funding patterns (Gutkin & Tieger, 1979) have been

shown to be highly influential on the special education decision-making process.

Clearly, these multiple sources of variance are not well represented in the simple refer-assess-place model of Figure 1. Additions to that model in Figure 2 represent what might be termed a "components of variance" approach to assessment and intervention.[1] The additional elements in Figure 2 suggest that teacher identification and referral of students to special education will be influenced, not only by student performance, but also by teacher tolerance and the instructional and management climate of the classroom. Moreover, the alternative model suggests that the purpose of assessment is not merely the identification of within-child disorder. Rather, the goal of multiple mode-multiple method assessment (Gresham, 1985) is to describe the nature of the mismatch between the student and the classroom environment, and through an iterative process of intervention and curriculum-based assessment (Deno, 1986; Howell, 1986), to improve that match. Only after that process has failed to produce a child/environment match in the current setting should alternative services outside the regular class be considered.

Insert Figure 2

about here

Implications of the New Paradigm for Eligibility Determination

The implications of the new paradigm for intervention and consultation

have been widely discussed (Graden, Casey, & Christenson, 1985; Huefner, 1988; Maheady et al, 1983; Reschly, 1988). Discussion of the implications for psychoeducational assessment has typically focused on the importance of curriculum-based assessment in evaluating treatment effectiveness (Deno, 1986; Kovaleski, 1988). Yet it is important to recognize that the interactional focus of the new paradigm also represents a fundamental shift in psychometric theory and practice of assessment for purposes of determining eligibility.

The traditional approach to reliability. The psychometric approach to assessment traditionally identifies only two sources of variance: a) child (or subject) variance, and (b) measurement variance. Contributions to measurement error in test scores are usually represented as

$$X = T + E \qquad (1)$$

where X represents the obtained score, T the true score, and E the measurement error (Guilford, 1954). Error may be positive or negative, inflating or deflating the obtained score in relation to the true score. The assumption is that, as measurement error in assessing the individual approaches zero, the student's score, and hence identification and placement decisions based on that score, will become increasingly accurate. Although the model has proved extremely use from a theoretical standpoint, there are two cautions that need to be applied in making such an assumption in educational practice.

First, it is important to note that the expected true score, T, cannot be equated solely with the individual difference contribution to that score. A student's score on a measure of achievement reflects will represent both "innate" student ability, and the effect of instruction in molding that

ability. A low score on an achievement test clearly indicates that a child is not benefitting from current instructional arrangements. It does not however, indicate what proportion of the problem is due to a student's difficulty in learning, and what proportion to inadequate instructional resources (cf., Gerber, 1987). The medical model of assessment and placement assumes that the current instructional arrangements are optimal, and that therefore low test scores represent evidence of student handicap. Given the general lack of assessment of the classroom environment (Salvia & Ysseldyke, 1988), it would seem that such an assumption is made more out of convenience than from a base of empirical evidence.

Second, even a test score notably free of measurement error, will not in and of itself guarantee that appropriate and "accurate" decisions will be made based on that score. Decisions may be made independent of the data: Investigations of referred populations (McGinnis, Kiraly, & Smith, 1983; Shepard, Smith, & Vojir, 1983) have shown that a substantial proportion of students are placed in special education without sufficient data to qualify for those services. Errors may occur in interpretation: Agreement among school professionals regarding the meaning of test scores averages little more than chance (Epps, McGue, & Ysseldyke, 1982). Finally, when team meetings determining special education eligibility fail even to meet due process requirements (Ysseldyke, Algozzine, & Mitchell, 1982), test scores may be irrelevant. Clearly, the accuracy of special education decision making will be influenced by factors other than the accuracy of the score itself. An accurate test score might be regarded as a necessary, but not sufficient,

condition for accurate decision making.

Thus, a number of components can be expected to influence the decision making process for students with learning and behavior problems. A simple model wherein students are presumed handicapped on the basis of falling below a unitary cutoff score fails to reflect the complexity of educational environments. Ann obtained test score represents the contribution of both student ability and appropriateness of instruction; decisions made on the basis of that score or scores reflect contributions by both test scores and the adequacy of the use and interpretation of those scores. Instructional and management adequacy, teacher tolerance, and the presence or absence of bias in decision-making all contribute to judgements of child deviance above and beyond the contribution made by individual differences. To ignore the contribution of these variables to eligibility decisions is to risk making what structural modeling theorists term "specification error" (Kenny, 1979). That is, by ignoring or underestimating important sources of environmental variance that contribute to judgments of deviance, the influence of within-child variance is seriously overestimated.

In the components of variance model, assessment describes the relative contribution of both the child and the environment to child variance. The aim is to determine (a) whether the child falls within or outside normal limits on individual difference variables that contribute to judgments of deviance, and (b) whether that child's instructional environment falls within normal limits on classroom variables that contribute to judgments of deviance. Reis (1986) argues that:

> Only after deficiencies in the learning environment have been ruled out by comparing it to professionally accepted standards and by documenting that the child fails to learn either under typical or alternative instructional approaches should this child be exposed to the risks of stigma and misclassification inherent in referral and individual assessment. (p. 136)

Gerber and Semmel (1984) argue that teacher referral constitutes an extremely accurate "call for help" for a child in a given classroom. Yet they also note that the referral does not allow one to specify whether the problem resides in the student or in the instructional environment; nor does traditional psychometric testing provide this information. In order to best determine where to provide resources in order to improve the match between child and environment, it becomes necessary to assess both the child's skills and competencies, and the adequacy of the instructional environment. The goal of assessment, then, is to improve the adaptation of the learner by improving the match between that learner's skills and the learning environment.

Implications of the New Paradigm for Prevalence Estimates

The rapid growth of the mildly handicapping categories, especially learning disabilities (Algozzine & Korinek, 1985; Lipsky & Gartner, 1987; Reschly, 1988; Singer & Butler, 1987) has been the cause for a lively debate concerning prevalence estimates. Proponents of educational reform have seen these figures as alarming, and probably due to faulty referral, assessment, or decision-making procedures in the implementation of P.L. 94-142 (Algozzine & Korinek, 1985; Algozzine & Ysseldyke, 1987; Reschly, 1988). Those expressing

concerns about the reform movement suggest that growth of the mildly handicapping categories may be simply a reflection of increased accuracy in identification, or of demographic trends such as the increased survival of low birth-weight babies (Hallahan, Keller, & Ball, 1986; Hynd, 1988).

It must be recognized, however, that arguments concerning prevalence of mildly handicapping conditions cannot be resolved given the medical model of assessment and placement: the intra-individual bias inherent in that model results in a confounded data set that could be (and has been) used to support either position. If one is simply seeking an estimate of the number of children who have been deemed eligible for alternative service or placement due to experiencing classroom difficulties in regular education, then current figures must be regarded as extremely accurate. Algozzine et al. (1982) report that 73% of all teacher referrals result in a special education placement, suggesting that teachers are highly skilled in identifying students who are in need of additional resources. As an index of the proportion of children in the population with an identifiable intra-individual dysfunction or psychopathology, however, the current prevalence figures are inadequate. Unless it can be shown that all children placed in special education are receiving optimal instruction prior to referral, and that the special education decision making process is free of bias, the assumption of within-child dysfunction is unwarranted.

Wide differences in teacher tolerance further cloud the prevalence issue. Rubin and Balow (1978) reported that fully 46% of the elementary school children in their sample were identified as a behavior problem by at least one

of their teachers. Yet as additional teacher ratings were compiled, the proportion decreased; about 16% were rated as a problem by two teachers, 8% by four teachers, and only 3% were rated as a behavior problem by all six teachers. These figures point to a strong situational or teacher tolerance component in teacher judgments of problem behavior.

Given the intra-individual biases of our current models of assessment and treatment, it is impossible to come to any conclusions regarding the prevalence of within-child disorder. Those students who might be regarded as "true" learning disabled (or "true" emotionally disturbed or mentally retarded) doubtless represent some subset of the children currently being served in those categories. Until the field begins to treat adequacy of instruction as an integral part of the assessment process, however, it is impossible to specify the proportions of children whose classroom problems are, or are not, due to situational factors. To blithely assume in the interim that all educational problems are child problems is a gross dereliction of the responsibility to ensure an appropriate education for all children.

Assessment of the Instructional Environment by the School Psychologist

The importance of the instructional climate in determining long-term student outcomes has been well documented (Anderson, Evertson, & Brophy, 1979; Bloom, 1980; Borg, 1980; Frederick, 1977; Good & Grouws, 1977; Stallings, 1975; Rieth & Evertson, 1988; Stevens & Rosenshine, 1981). It is only recently that this literature has begun to have an effect on actual assessment practice (Salvia & Ysseldyke, 1988). Still, a number of measures are available for the school psychologist interested in a more complete picture of the

interactions of a student and the instructional environment.

A number of quantitative measures of student-teacher or student-instruction interaction have been reported in the literature. The Code for Instructional Structure and Student Academic Responding (CISSAR: Greenwood, Delquadri, Stanley, Terry, & Hall, 1985) is a behavioral observation system that focuses on the behaviors and instructional arrangements for a single target student during classroom instruction. The measure includes behavior codes representing the classroom ecology (activity, task, and structure), teacher behavior and position, and student responding. Other observational systems that provide data on both student and teacher behavior include the State-Event Classroom Observation System (SECOS: Saudargas & Lentz, 1986), and the Classroom Observation Keyed for Effectiveness Research (COKER) observation system (Coker & Coker, 1982).

More qualitative measures of the nature of instruction are also available. Ysseldyke & Christenson (1987b) designed the Instructional Environment Scale (TIES) to "systematically describe the extent to which a student's academic or behavior problems are a function of factors in the instructional environment" (p. 3), and to aid in the design of appropriate instructional interventions. The TIES uses classroom observation and rating, a teacher interview, and a student interview to assess the quality of the instructional environment in twelve domains identified as influential in student academic success. A number of other qualitative measures have also been used for research purposes, including the Classroom Environment Scale (Moos, 1979), and the Individualized Classroom Environment Questionnaire and

My Class Inventory (Fraser, 1987).

A third alternative for describing student-environment interactions are measures drawn from the theory and method of ecological psychology. Blon, Lininger, & Charlesworth (1987) report on the development of an observational system called Problem Behavior Analysis, designed to assess child and environment interactions. Prieto & Rutherford (1977) describe a behavior analysis approach to describing the niches that a child occupies in his or her environments. The goal of the procedure is to "move avawy from the deviant child concept and address the significant antecedents and consequences in the eco-systems that may effect the child's behavior" (p. 171).

Multimethod-multimode assessment (Gresham, 1985), utilizing behavioral observation, behavior rating, peer nominations, and other sources of data, may also be used to gain a perspective on student functioning across a number of environments. Behavior that proved stable across a number of environments or sources of data might indicate a significant individual difference contribution to poor adaptation, and could suggest the need for more intensive individual treatments. On the other hand, high variability across classroom situations would be an indicator of a strong environmental contribution to child variance, and suggest rearranging environmental contingencies or instructional arrangements. Elements of the multimode-multimethod approach have been integrated into the "multiple gating approach" in the Systematic Screening for Behavior Disorders (SSBD) model (Walker et al., 1988).

Obstacles to an Ecological Approach

A number of obstacles to a more interactional assessment must be recognized. First, the assessment of classroom environments is a relatively recent undertaking. Thus, important questions of technical adequacy have yet to be addressed sufficiently. While some of the measures, such as the SSBD (Walker et al., 1988) or the CISSAR (Greenwood et al., 1985) have demonstrated adequate reliability and validity, standardization samples against which to judge the meaningfulness of the obtained scores are typically absent. The alterable status of instructional variables (Bloom, 1980) further complicates the picture. In describing the adequacy of academic allocated time, for instance, should norms reflect the typically low percentages occuring in many settings (Greenwood, Delquadri, & Hall, 1984; Graden, Thurlow, & Ysseldyke, 1983), or represent optimal, but less widely seen, levels that have been shown to result in improved student achievement?

A related risk is the threat, real or perceived, that assessment of the instructional environment could be used for personnel evaluation. As pressure builds for accountability in schools and classrooms (Goodlad, 1984; National Commission on Excellence in Education, 1983), measures of classroom climate could be used for evaluation of teacher performance. If such measures were also being used by school psychologists in educational evaluation, traditional lines of responsibility for child assessment and teacher evaluation might be blurred. Assessment of classroom instruction might encounter resistance from teachers who fear being blamed for their students' educational failures.

Questions of feasibility of alternative modes of assessment and service

delivery also need to be addressed. Multimethod or multimode assessment may prove difficult to implement in practice. Given the paucity of data often currently used to identify students (McGinnis, Kiraly, & Smith, 1983; Shepard, 1982), it may be unrealistic to expect drastic increased in the amount of data collected in psychoeducational evaluations. This last obstacle may be especially crucial given the extensive backlog of LD assessment faced by many school psychologists (Reschly, Genshaft, & Binder, 1987). The question of resources is crucial in the delivery of pre-referral interventions as well. Gerber & Semmel (1984) point out that referral to special education occurs most frequently in response to a lack of resources--either time or previous training--for dealing with a problem student. If these insufficient resources are not supplemented as part of the environmental intervention, it is highly unlikely that there will be successful adaptations of the classroom environment.

Summary and Conclusions

Models of psychoeducational assessment and intervention in school psychology and special education have tended to stress intrapsychic etiology and individual treatment. Accumulating evidence suggests, however, that the within-child approach has failed to demonstrate either measurement reliability or treatment validity. Under the broad rubric of the regular education initiative, alternative models of assessment and intervention are being tested. It appears that the alternative strategies assume a more interactional perspective, with the consequent assessment strategies focusing on both the individual learner and the instructional environment. These changes will

demand a new set of practices, and perhaps a new psychometric model, for assessment for purposes of eligibility. In the process of implementing an ecological approach to special education assessment, however, sensitivity to issues of teacher evaluation and resource availability will be crucial.

At this point, it is impossible to know to what extent the obstacles described above represent cautions in implementing new approaches, or barriers that may prove insurmountable. Certainly there have been many previous calls for both special education reform (Dunn, 1968; Forness, 1974; Hallahan & Kauffman, 1977; Hobbs, 1975; Lilly, 1979), and an ecological approach (Algozzine, 1977; Rhodes, 1967; Sarason & Doris, 1979; Wallace & Larsen, 1978) that failed to reach fruition. Reschly (1988) argues, however, that support for the current initiative is so broad-based and problems with the present system so endemic as to make a radical restructuring of services inevitable.

For the school psychologist, the new approaches offer challenges and opportunities. Implementation of new models of assessment will clearly require tact, sensitivity, and creativity in balancing old and new approaches to assessment. Yet the history of the field has been one of dissatisfaction with a role limited solely to psychoeducational testing for purposes of eligibility (Bardon, 1982). Broadening the assessment paradigm to include assessment and intervention at the level of the instructional environment offers the school psychologist the opportunity to broaden the diagnostic aspects of the role, as well as an increased opportunity for consultation and counseling functions highly valued by the field.

Footnotes

The author wishes to thank Jack Cummings and James McLeskey for their helpful comments on an earlier draft of this manuscript.

[1] The term is drawn from a components of variance model for describing reliability or generalizability proposed by Cronbach (1970) In that model, the observed score is the sum of several separate components:

$$X_{pi} = M + (M_p - M) + (M_i - M) + (\text{residual})$$

In this equation, X_{pi} represents the obtained score, while the first term, M is a general average on that score. The term $(M_p - M)$ is a "person effect" representing the "superiority or inferiority" of person p to the average person, while the term $(M_i - M)$ represents a "condition effect" indicating whether condition i tends to produce high or low scores. While Cronbach limited "condition effect" to test conditions such as difficulty or time of administration, however, the current variation proposes that both test conditions and extra-test conditions (i.e., adequacy of instruction) be included in the "condition effect" term. Alternately, to increase descriptive precision, the condition effect might be subdivided into two terms, a test

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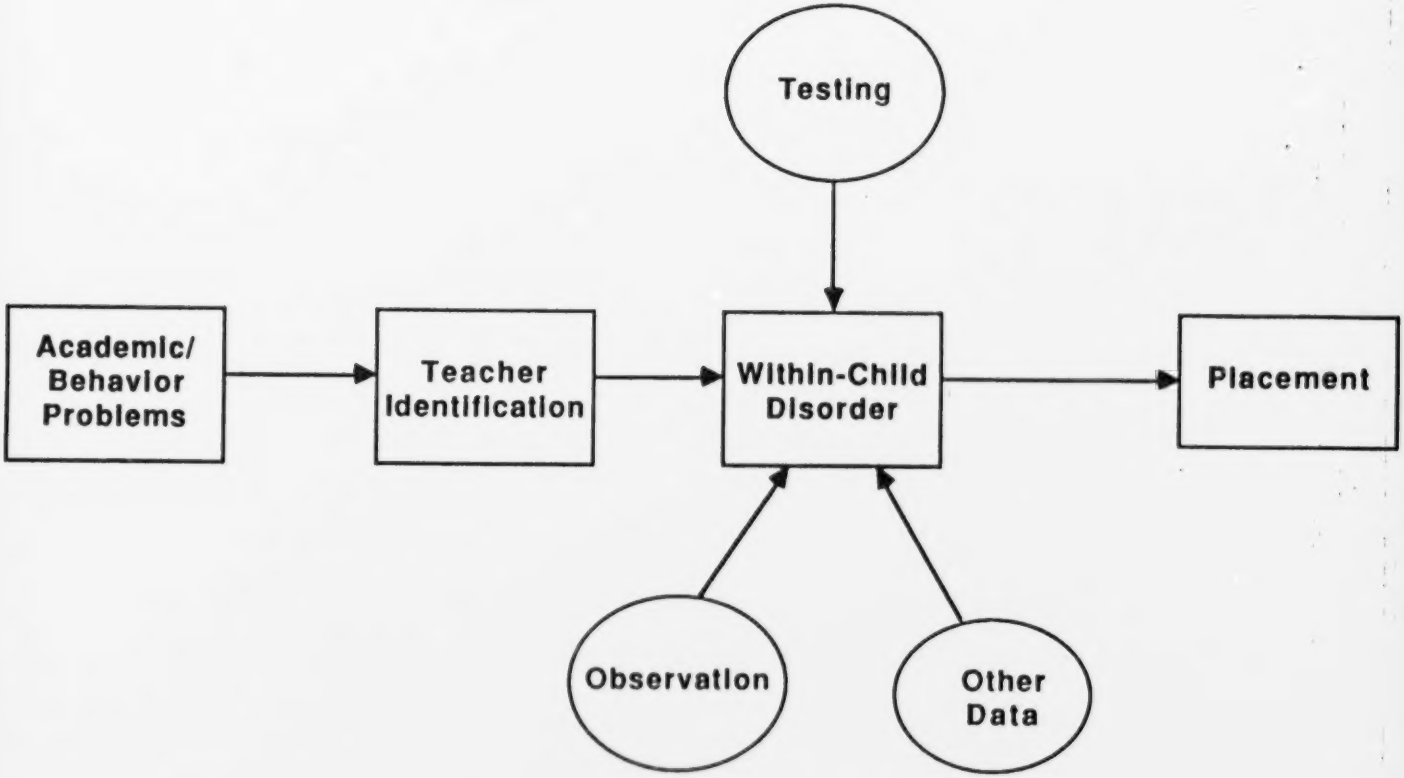
Figure 1. Representation of the medical model of identification and service in special education. Variables in boxes represent constructs, while variables in circles are measures of those constructs.

Figure 2. Representation of a "components of variance" model of assessment. Note that measures become sources of data for more than one construct, and that assessment following teacher identification becomes an iterative process seeking to improve the match between the student and the instructional environment.


Testing
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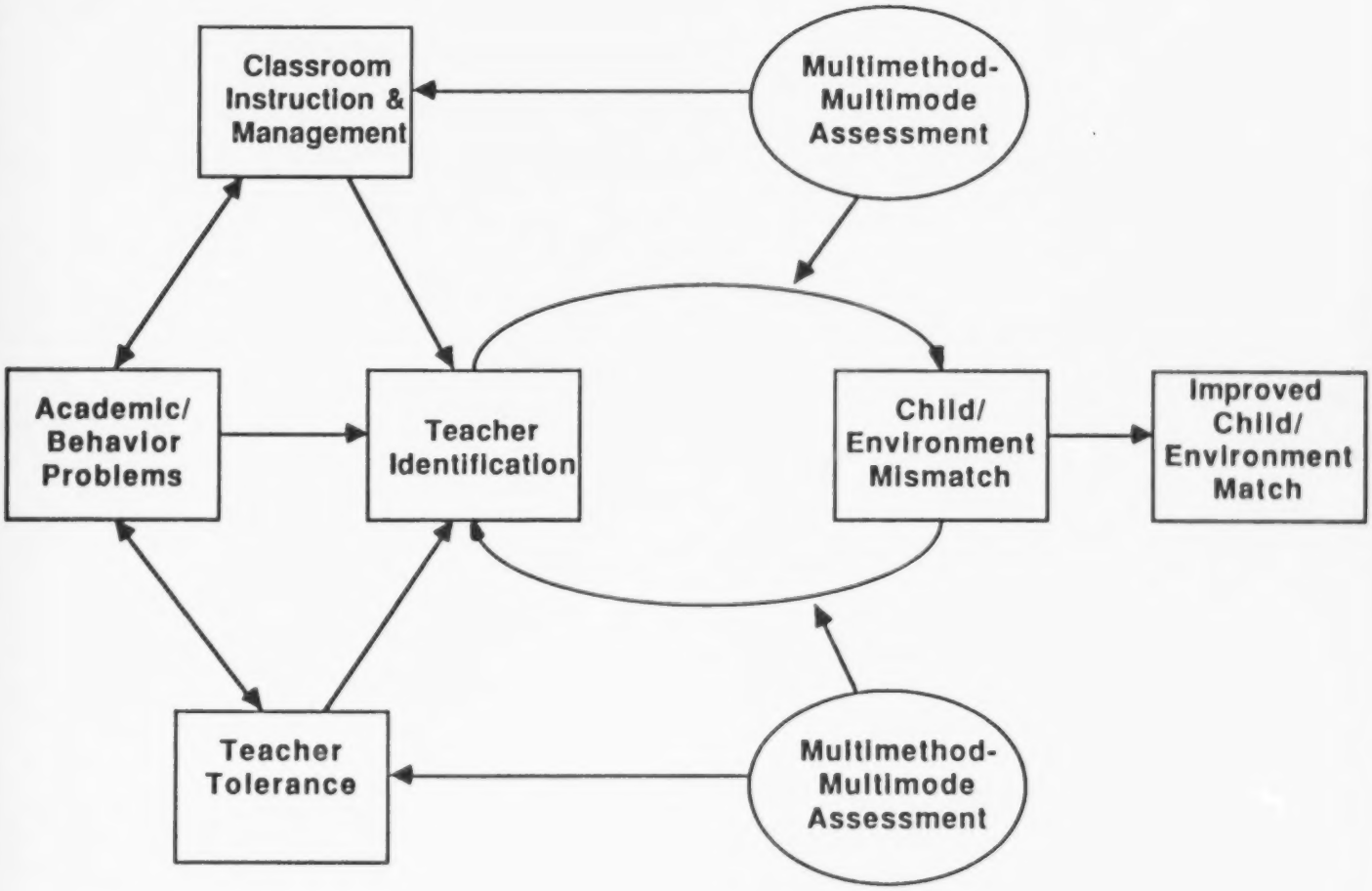
Classroom Instruction & Management
Multimethod-Multimode Assessment
Academic/ Behavior Problems
Teacher Identification
Child/ Environment Mismatch
Improved Child/ Environment Match
Teacher Tolerance
Multimethod-Multimode Assessment